

**cuts and to evaluate which repair options are the most effective**

The methods and technologies developed in this study should not be limited to use by City officials. It is hoped that utility companies and their contractors also may use them to more fully understand the true impact of utility cuts and to develop better methods for their restoration.

## **APPENDIX A**

TABLE A.1. Deflection Computations for Cut at UCAS P7&PINT-1

Pond No	Intermediate Deflection (1/1000 in.)	Local Deflection (1/1000 in.)	Ave Interim Deflection (1/1000 in.)	Ave Final Deflection (1/1000 in.)	Concluded Deflection (in.)	Temp Concluded Deflection (Cer = 1.59)	Session Correction	Total True Deflection
1	0.1	0.6	0.3	1.4	0.0185	0.0259	1.24	0.0322
2	10.7	11.0	23.3	25.0	0.0329	0.0310	1.29	0.004
3	11.1	12.2	21.0	24.1	0.0308	0.0475	1.24	0.000
4	10.1	11.2	19.5	21.0	0.0276	0.0427	1.24	0.054
5	6.3	9.5	17.2	19.5	0.0260	0.0394	1.24	0.051
6	7.6	9.0	16.7	20.0	0.0290	0.0458	1.24	0.057
7	6.1	11.0	8.6	10.3	0.0249	0.0381	1.24	0.044
8	6.6	6.0	6.3	6.3				
9	4.0	6.0	5.0	12.1	0.0220	0.0355	1.24	0.045
10	4.3	6.1	5.2					
11	3.6	5.4	4.3	11.4	0.0231	0.0354	1.24	0.045
12	3.7	6.0	4.8					

TABLE A.2. Deflection Computations for Cut at UCASPCLI3217-1

Point No	Intermediate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Avg Intern Deflection (1/1000 in.)	Avg Final Deflection (1/1000 in.)	Corrected Deflection [in.]	Spanwise Correction		Final Line Deflection
						Long Corrected Deflection (Car = 16)	Spanwise Correction	
1	1.0	1.0	1.0	1.0	0.0022	0.0035	1.28	0.004
	0.9	0.9						
2	1.0	1.7	4.0	5.5	0.001	0.0130	1.28	0.016
	3.0	3.0						
3	1.4	1.0	1.42	1.48	0.0108	0.0272	1.28	0.034
	0.8	1.0						
4	5.3	5.3	10.3	10.4	0.0107	0.0172	1.28	0.022
	5.0	5.1						
5	6.0	8.2	13.0	13.8	0.0101	0.0258	1.28	0.031
	1.0	1.0						
6	1.0	6.5	15.0	18.1	0.0102	0.0310	1.28	0.030
	1.2	7.8						
7	1.0	7.0	15.3	16.0	0.0100	0.0280	1.28	0.030
	1.7	8.1						
8	1.0	8.4	15.0	16.0	0.0104	0.0313	1.28	0.030
	1.7	8.2						
9	1.3	1.0	14.7	15.0	0.0106	0.0315	1.28	0.030
	1.4	8.0						

TABLE A.3. Deflection Computations for Cut at UCASPCLLHUC-1

Panel No.	Interpolate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Ave. Interpolate Deflection (1/1000 in.)	Ave. Final Deflection (1/1000 in.)	Corrected Deflection (in.)	Temp. Corrected Deflection (C <sub>corr</sub> = 1.20)	Stand. Correction	Final True Deflection
1	60	72	64	70	.0143	.0143	.0143	.0143
2	32	36	34	36	.0090	.0093	.0093	.0093
3	37	42	39	41	.0113	.0114	.0114	.0114
4	34	40	37	42	.0113	.0114	.0114	.0114
5	24	32	30	34	.0017	.0014	.0014	.0017
6	26	32	32	32	.0000	.0001	.0001	.0001
7	23	23	23	23	.0000	.0000	.0000	.0000
8	11	16	13	16	.0049	.0049	.0049	.0049
9	08	10	9	10	.0000	.0000	.0000	.0000
10	16	21	19	20	.0012	.0011	.0011	.0012
11	24	28	26	28	.0003	.0003	.0003	.0003
12	21	33	29	31	.0004	.0004	.0004	.0004
13	27	36	33	35	.0015	.0015	.0015	.0015
14	28	36	34	36	.0017	.0017	.0017	.0017

TABLE A.4. Deflection Computations for Cut at UCASPEMC169-1

Point No	Intermediate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Ave Interim Deflection (1/1000 in.)	Ave Final Deflection (1/1000 in.)	Corrected Deflection (in.)	Temp Corrected Deflection (C <sub>100</sub> = 1.0)	Seasonal Correction	Final True Deflection
1	5.0	5.0	11.0	11.0	0.0110	0.0102	1.28	0.024
2	6.0	6.0	10.0	21.0	0.0238	0.0243	1.28	0.044
3	10.5	10.0	11.0	21.0	0.0208	0.0237	1.28	0.042
4	10.0	10.2	10.0	10.5	0.0210	0.0251	1.28	0.044
5	8.2	8.2	8.2	14.0	0.0210	0.0216	1.28	0.036
6	7.0	6.7	6.7	14.0	0.0210	0.0216	1.28	0.036
7	1.1	6.0	6.0	14.0	0.0210	0.0216	1.28	0.036
8	6.5	6.5	14.5	16.0	0.0203	0.0226	1.28	0.041
9	6.0	7.5	14.5	16.0	0.0203	0.0226	1.28	0.041
10	1.0	1.0	13.0	19.0	0.0103	0.0116	1.28	0.036
11	7.4	7.4	14.0	14.0	0.0103	0.0104	1.28	0.037
12	6.3	6.3	14.0	16.7	0.0103	0.0104	1.28	0.037
13	1.0	1.0	14.0	16.7	0.0103	0.0104	1.28	0.037
14	6.4	6.4	12.4	13.4	0.0102	0.0102	1.28	0.033
15	7.0	6.5	15.1	16.0	0.0220	0.0255	1.28	0.045
16	7.5	6.4	15.1	16.0	0.0220	0.0255	1.28	0.045

TABLE A.5. Deflection Computations for Cut at UCASPEMC173-1

Point No	Intermediate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Ave. Interim Deflection (1/1000 in.)	Ave. Final Deflection (1/1000 in.)	Temp. Corrected Deflection (Can = 18)		Reversed Correction	Final True Deflection
					Corrected Deflection (in.)	Temp. Corrected Deflection (Can = 18)		
1	68	101	89	201	0.0217	0.0350	1.28	0.044
2	92	101	92	100	0.0244	0.0322	1.28	0.049
3	69	97	71	115	0.0213	0.0313	1.28	0.043
4	61	74	68	88	0.0168	0.0211	1.28	0.030
5	60	60	59	60	0.0103	0.0204	1.28	0.017
6	58	50	59	59	0.0150	0.0241	1.28	0.040
7	31	40	43	42	0.0135	0.0217	1.28	0.027
	31	41	41	41	0.0161	0.0182	1.28	0.020
	15	25	30	30	0.0155	0.0098	1.28	0.010
	24	30	30	30	0.0155	0.0098	1.28	0.010
	22	29	29	29	0.0162	0.0162	1.28	0.020
	24	30	30	30	0.0155	0.0098	1.28	0.010

TABLE A.6. Deflection Computations for Cut at UCASPEMC659-1

Panel Num	Intermediate Deflections (1/1000 in.)	Fluid Deflection (1/1000 in.)	Ave. Interim Deflections (1/1000 in.)	Corrected Deflection (in.)		Bending Correction	Fluid Line Deflection
				Temp Corrected Deflection (in.) (Car = 1.00)	Temp Corrected Deflection (in.) (Car = 1.00)		
1	16.4	15.0	20.0	30.0	0.035	1.00	0.015
	16.0	15.0			0.035		
2	17.0	16.5	25.0	37.7	0.049	1.00	0.019
	16.0	16.2			0.049		
3	17.0	16.0	34.0	36.0	0.045	1.00	0.015
	16.1	16.0			0.045		
4	16.0	21.7	21.7	45.1	0.050	1.00	0.019
	21.0	23.4			0.050		
5	20.0	21.0	41.7	44.8	0.053	0.997	1.00
	20.0	22.7			0.053		
6	16.0	21.0	36.0	41.1	0.046	0.991	1.00
	16.0	20.1			0.046		
7	16.2	16.0	37.1	40.6	0.052	0.994	1.00
	16.0	20.7			0.052		
8	17.7	16.4	33.4	35.2	0.043	1.00	0.014
	15.7	16.0			0.043		
9	8.2	16.1	18.3	20.2	0.0277	1.00	0.020
	8.1	16.1			0.0277		

TABLE A.7. Deflection Computations for Cut at UCASPGTH304N-1

Probe No	Intermitter In-Berth (1/1000 ln.)	Flow In-Berth (1/1000 ln.)	Avg. In-Berth In-Berths (1/1000 ln.)	Avg. Flow In-Berth (1/1000 ln.)	Corrected Detection (ft)		Temp Corrected Detection (Cen = 1.35)	Statistical Correction	Final In-Berth Detection
					0.0004	0.0001			
1	0.0	0.2	11.5	10.0	0.0004	0.0001	1.20	1.20	0.037
	0.5	0.6							
2	1.0	1.0	21.0	22.0	0.0006	0.0005	1.20	1.20	0.046
	10.0	11.2							
3	1.0	11.3	23.0	24.1	0.0007	0.0006	1.20	1.20	0.051
	12.0	12.0							
4	10.0	0.5	10.2	10.3	0.0008	0.0004	1.20	1.20	0.037
	0.2	0.0							
5	0.1	0.0	17.3	18.4	0.0010	0.0013	1.20	1.20	0.041
	0.2	0.0							
6	7.7	8.1	18.1	18.0	0.0012	0.0008	1.20	1.20	0.036
	8.4	8.0							
7	8.0	8.4	18.4	17.3	0.0010	0.0200	1.20	1.20	0.046
	8.4	8.0							
8	8.0	8.5	15.0	16.1	0.0010	0.0200	1.20	1.20	0.045
	7.8	7.0							
9	7.0	7.7	13.0	13.0	0.0010	0.0212	1.20	1.20	0.044
	9.0	7.5							

TABLE A.8. Deflection Computations for Cut at UCASPTH304S-1

Panel No.	Deflection (Inches/in. (1/1000 in.)	Panel Span (inches) (1/1000 in.)	Avg Deflection (inches/in. (1/1000 in.)	Avg Total Deflection (inches/in. (1/1000 in.)	Corrected Deflection (in.)		Temp Corrected Deflection (in = 1.47)	Standard Correction	Final Total Deflection
					Corrected Deflection (in.)	Corrected Deflection (in.)			
1	0.0	0.0	0.0	0.0	0.0187	0.0214	0.0214	1.26	0.075
2	0.0	0.1	0.1	0.1	0.0185	0.0242	0.0242	1.26	0.030
3	0.0	0.0	0.0	0.0	0.0132	0.0194	0.0194	1.26	0.024
4	0.0	0.0	0.0	0.0	0.0158	0.0233	0.0233	1.26	0.029
5	0.0	0.0	0.0	0.0	0.0164	0.0200	0.0200	1.26	0.038
6	0.0	0.0	0.0	0.0	0.0151	0.0223	0.0223	1.26	0.028
7	0.0	0.0	0.0	0.0	0.0173	0.0254	0.0254	1.26	0.037
8	0.0	0.0	0.0	0.0	0.0164	0.0241	0.0241	1.26	0.030
9	0.0	0.0	0.0	0.0	0.0153	0.0225	0.0225	1.26	0.028
10	0.0	0.0	0.0	0.0	0.0153	0.0225	0.0225	1.26	0.028

TABLE A.9. Deflection Computations for Cut at UCASPPAR1720-1

Point No	Deflection (in/1000 ft)	Island Deflection (in/1000 ft)	Avg Island Deflection (in/1000 ft)	Avg Island Deflection (in/1000 ft)	Temp Corrected Deflection (in)		Seasonal Correction	Final Deflection
					Corrected Deflection (in)	Temp Corrected (in) = 0.83		
1	12.9	14.0	20.7	21.0	0.0216	0.0231	1.26	0.029
	12.8	13.0						
2	19.0	19.0	36.0	36.2	0.0308	0.0322	1.26	0.041
	19.0	19.2						
3	15.9	16.1	32.0	33.3	0.0364	0.0388	1.26	0.038
	17.0	17.2						
4	15.0	15.0	30.7	31.0	0.0333	0.0318	1.26	0.015
	15.2	15.2						
5	15.0	15.2	31.0	31.4	0.0325	0.0298	1.26	0.014
	16.0	16.2						
6	15.1	15.2	31.7	32.1	0.0332	0.0278	1.26	0.015
	16.0	16.0						
7	17.0	17.1	32.6	33.1	0.0340	0.0242	1.26	0.013
	15.0	16.0						
8	16.0	16.0	33.0	35.1	0.0368	0.0322	1.26	0.011
	17.0	18.2						
9	17.0	17.5	35.2	36.5	0.0402	0.0334	1.26	0.012
	18.2	19.0						

TABLE A.10. Deflection Computations for Cut at UCASPLIN859-1

Point No.	Deflection Index (in 1000 in.)	End Deflection (in 1000 in.)	Avg Deflection in 1000 in. (in 1000 in.)	Avg End Deflection (in 1000 in.)	Centered Deflections (in 1000 in.)		Summed Deflections (in 1000 in.)	Final Deflection (in 1000 in.)
					Centered Deflection (in 1000 in.)	Summed Deflections (in 1000 in.)		
1	35.2	37.1	37.1	37.1	75.0	0.0001	0.1274	0.101
2	35.9	37.0	37.0	37.0	74.0	0.0040	0.1243	0.107
3	31.4	30.0	31.3	31.3	74.0	0.0008	0.1130	0.113
4	33.9	25.0	31.2	31.2	65.1	0.0008	0.0829	0.117
5	29.5	31.5	33.0	33.0	65.1	0.0029	0.0722	0.091
6	24.0	25.4	24.1	24.1	53.1	0.0029	0.0629	0.126
7	23.7	21.7	22.7	22.7	43.1	0.0008	0.0622	0.126
8	20.2	21.1	20.1	20.1	41.1	0.0008	0.0618	0.126
9	20.9	22.0	21.0	21.0	42.0	0.0008	0.0618	0.126
10	20.7	21.0	20.8	20.8	42.0	0.0008	0.0618	0.126
11	20.1	21.0	20.1	20.1	39.3	0.0002	0.0604	0.094
12	20.2	21.0	20.1	20.1	41.1	0.0002	0.0604	0.094
13	18.1	20.1	20.1	20.1	41.2	0.0027	0.0601	0.094
14	20.4	22.1	21.2	21.2	41.2	0.0002	0.0592	0.094
15	19.9	20.2	22.1	22.1	40.0	0.0002	0.0592	0.094
16	19.6	20.2	22.0	22.0	42.2	0.0002	0.0592	0.094
17	21.0	22.0	21.0	21.0	42.2	0.0002	0.0592	0.094

TABLE A.11. Deflection Computations for Cut at UCAS/STA2641-1

Frame No.	Deflection (Inches)	Ave. Deflection (Inches)	Ave. Deflection (Inches)	Corrected Deflection (Inches)	Temp Corrected (Inches)	Ground (inches)	Final Line (inches)
1	132	14.1	23.9	21.6	0.0324	0.20	0.00
2	16.0	21.0	40.0	42.5	0.0410	0.20	0.00
3	20.2	21.1	39.0	41.7	0.0417	0.00	0.00
4	23.0	23.0	47.6	50.1	0.0512	0.20	0.10
5	24.2	25.1	48.1	50.6	0.0515	0.00	0.10
6	20.0	22.1	43.0	46.3	0.0500	0.20	0.10
7	19.7	20.1	39.7	41.9	0.0480	0.11	0.10
8	16.0	21.0	39.1	41.0	0.0495	0.12	0.07
9	20.2	21.0	40.1	42.0	0.0503	0.14	0.11
10	16.0	21.0					

TABLE A.12. Deflection Computations for Cut at UCASPVPPW2229-1

E-mail (in)	Inches/inch (in/inch in)	Span (in/inch in)	Avg. Deflection (in/1000 in)	Avg. Final Deflection (in/1000 in)	Converted Deflection (in)	Stressed Condition		Load Time (in Minutes)
						Temp Corrected Deflection ( $\delta_{Cor} = 1.00$ )	Stressed Deflection (in)	
1	5.5	5.0	10.7	12.0	0.0157	0.0234	0.29	0.029
	5.2	6.1						
2	10.1	17.0	32.3	34.2	0.0300	0.0300	1.29	0.014
	10.2	17.2						
3	12.0	13.2	25.7	27.7	0.0334	0.0340	1.29	0.003
	12.1	14.5						
4	6.0	10.0	10.5	10.8	0.0210	0.0213	1.29	0.039
	6.7	9.9						
5	7.0	8.2	15.3	16.2	0.0186	0.0200	1.29	0.075
	7.5	8.0						
6	7.0	6.1	14.0	16.1	0.0165	0.0191	1.29	0.037
	7.1	6.0						
7	8.3	10.0	16.0	16.0	0.0233	0.0237	1.29	0.046
	8.7	8.3						
8	12.2	13.3	23.7	25.7	0.0314	0.0308	1.29	0.059
	11.5	12.4						
9	10.4	17.5	32.3	34.8	0.0304	0.0307	1.29	0.017
	10.0	17.0						

TABLE A.13. Deflection Computations for Cut at UCASPFDD3054-1

Point No	Interpolate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Avg Interim Deflection (1/1000 in.)	Avg Final Deflection (1/1000 in.)	Temp Corrected Deflection (F <sub>corr</sub> = 0.005)		Spanwise Correction	Final Line Deflection
					Corrected Deflection (in.)	Spanwise Correction		
1	35	40	38	39	0.0114	0.0007	1.28	0.017
2	13.5	14.0	14.0	14.0	0.0333	0.0258	1.24	0.012
3	12.2	12.0	25.1	26.0	0.0350	0.0207	1.24	0.017
4	12.5	13.0	25.0	27.0	0.0411	0.0401	1.24	0.020
5	12.5	13.0	18.7	19.7	0.0431	0.0388	1.24	0.014
6	17.0	16.6	35.2	36.3	0.0394	0.0335	1.24	0.012
7	17.0	16.5	33.1	35.7	0.0410	0.0346	1.24	0.014
8	18.1	17.2	31.1	33.1	0.0419	0.0355	1.24	0.015
9	14.0	15.4	20.2	21.1	0.0364	0.0346	1.24	0.011
10	14.2	15.7	30.7	32.0	0.0410	0.0344	1.24	0.014
11	15.0	17.0	16.0	16.0	0.0419	0.0304	1.24	0.015
12	17.0	18.7	26.0	29.0	0.0415	0.0313	1.24	0.017
13	19.0	20.3	31.8	34.0	0.0438	0.0313	1.24	0.017
14	15.0	16.6	31.8	34.0	0.0410	0.0313	1.24	0.017

TABLE A.14. Deflection Computations for Cut at UCASPPAV942-1

Point No	Intermediate Deflection (1/10000 in.)	Final Deflection (1/10000 in.)	Ave Interim Deflection (1/10000 in.)	Ave Final Deflection (1/10000 in.)	Corrected Deflection (in.)	Temp Corrected Deflection (Cust = 1.25)	Seasonal Correction	Final True Deflection
1	20.0	20.0						0.050
	19.0	19.0	20.0	20.0	0.0402	0.0502	1.00	
2	27.2	26.1						
	26.5	26.7	27.2	26.9	0.0576	0.0721	1.00	0.072
3	26.0	26.0						
	27.0	27.0	26.0	26.0	0.0616	0.0714	1.00	0.071
4	26.4	27.0						
	27.0	26.1	27.0	26.4	0.0634	0.0732	1.00	0.070
5	32.0	33.0						
	30.5	32.0	32.0	31.5	0.0728	0.0811	1.00	0.081
6	33.0	34.5						
	34.0	37.0	34.0	37.0	0.0820	0.1022	1.00	0.101
7	33.0	35.0						
	33.0	31.0	35.0	33.0	0.0808	0.0808	1.00	0.080
8	41.2	42.5						
	42.0	42.0	41.2	42.0	0.0836	0.1172	1.00	0.117
9	36.0	36.0						
	37.0	35.0	36.0	36.0	0.0821	0.1026	1.00	0.101

TABLE A.15. Deflection Computations for Cut at UCASPPAV949-1

Line No	Deflection (1/1000 in.)	Total Deflection (1/1000 in.)	Ave. Deflection (1/1000 in.)	Ave. Fluid Deflection (1/1000 in.)	Corrected Deflection (in.)		Temp Corrected Deflection (Cen = 115)	Reduced Correction	Total Line Deflection
					Corrected Deflection (in.)	Corrected Deflection (in.)			
1	27.2	23.2	47.9	46.6	0.0543	0.0525	1.00	0.002	
2	29.0	29.7	50.4	49.5	0.0762	0.0610	1.00	0.000	
3	29.5	32.5	51.0	50.0	0.0751	0.0603	1.00	0.000	
4	29.4	31.0	51.2	50.1	0.0753	0.0626	1.00	0.003	
5	32.0	34.1	50.3	50.8	0.0820	0.0653	1.00	0.005	
6	33.7	36.8	51.3	50.1	0.0894	0.0692	1.00	0.000	
7	24.3	24.3	48.3	48.3	0.0524	0.0494	1.00	0.000	
8	25.0	25.0	49.0	49.0	0.0594	0.0564	1.00	0.001	
9	29.0	26.0	55.2	56.0	0.0814	0.0708	1.00	0.001	
10	27.3	27.0	51.0	51.0	0.0695	0.0586	1.00	0.001	
11	22.0	23.0	47.7	44.1	0.0495	0.0386	1.00	0.000	
12	20.2	21.1	47.0	44.1	0.0495	0.0332	1.00	0.000	
13	17.2	17.0	45.0	45.0	0.0386	0.0238	1.00	0.000	
14	12.6	13.2	42.2	42.2	0.0238	0.0174	1.00	0.000	
15	12.0	12.2	42.4	42.4	0.0238	0.0174	1.00	0.000	
16	10.0	12.1	40.0	40.0	0.0174	0.0113	1.00	0.000	

TABLE A.16. Deflection Computations for Cut at UCASPRK2324-1

Panel No.	Deflection Due to Reaction (1/1000 in.)	Final Deflection (1/1000 in.)	Avg. Internal Deflection (1/1000 in.)	Avg. Final Deflection (1/1000 in.)	Temp. Corrected Deflection (E <sub>st</sub> = 18)		Seasonal Correction	Final Live Deflection
					Corrected Deflection (in.)	Temp. Corrected Deflection (E <sub>st</sub> = 18)		
1	3.0	4.5	1.7	6.7	0.0116	0.0104	1.20	0.023
	3.0	4.2						
2	10.0	10.0	33.0	34.0	0.0403	0.0449	1.20	0.062
	10.2	10.0						
3	14.0	16.1	20.7	31.1	0.0310	0.0311	1.20	0.071
	13.0	15.0						
4	12.1	13.4	23.3	25.0	0.0120	0.0130	1.20	0.007
	11.2	12.4						
5	10.0	11.0	21.0	22.0	0.0204	0.0208	1.20	0.050
	11.0	11.7						
6	10.0	10.5	19.7	21.4	0.0204	0.0227	1.20	0.053
	9.7	10.5						
7	10.0	12.2	20.0	22.0	0.0204	0.0214	1.20	0.050
	9.8	10.7						
8	9.0	10.7	19.4	21.5	0.0215	0.0242	1.20	0.054
	9.4	10.3	10.8	10.1				
9	9.7	10.8						

TABLE A.17. Deflection Computations for Cut at UCASPPRK2378-1

Point No	Deflection Inches (1/1000 in.)	I Bend Deflection (1/1000 in.)		Ave I Bend Deflection (1/1000 in.)	Corrected Deflection (in.)	Temp Corrected Deflection (C <sub>21</sub> = 1.14)	Second Correction	Final True Deflection
		I Bend	I Bend Deflection (1/1000 in.)					
1	2.3	4.0	4.3	7.1	0.0151	0.0172	1.20	0.022
	2.0	3.1						
2	5.3	6.4	10.2	12.0	0.0171	0.0185	1.20	0.025
	6.0	5.8						
3	5.4	6.4	10.4	12.2	0.0173	0.0187	1.20	0.025
	5.0	5.8						
4	6.1	8.1	11.0	16.0	0.0217	0.0235	1.20	0.040
	6.8	7.0						
5	6.2	6.8	11.0	14.3	0.0237	0.0270	1.20	0.034
	6.8	7.5						
6	6.0	6.0	10.8	13.1	0.0202	0.0220	1.20	0.029
	5.0	6.2						
7	3.3	4.1	7.2	9.0	0.0161	0.0167	1.20	0.024
	3.9	5.5						
8	5.4	6.4	10.0	13.4	0.0214	0.0234	1.20	0.031
	6.2	7.0						
9	10.2	12.1	19.4	24.1	0.0375	0.0427	1.20	0.054
	9.2	12.0						
10	6.0							

TABLE A.18. Deflection Computations for Cut at UCASPROC1005-1

Point No	Intermediate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Avg Interim Deflection (1/1000 in.)	Avg Final Deflection (1/1000 in.)	Corrected Deflection (in.)	Temp Corrected Deflection [Cen = 10]	Seasonal Correction	Final True Deflection
1	18	19	18.5	19.4	0.0174	0.0200	1.20	0.015
	12	13	12.5	13.4				
2	18.5	19.7	19.0	19.5	0.0155	0.0132	1.20	0.002
	16.0	16.8	16.4	17.0				
3	25.6	26.5	26.0	26.2	0.0130	0.0115	1.20	0.179
	26.0	26.7	26.3	26.7				
4	30.0	31.0	30.5	30.7	0.0110	0.0091	1.20	0.137
	29.7	30.0	29.9	30.0				
5	29.2	30.0	29.5	29.7	0.0080	0.0107	1.20	0.140
	27.5	28.1	27.8	28.0				
6	24.2	25.5	24.8	25.0	0.0061	0.0051	1.20	0.120
	26.0	27.0	26.5	27.0				
7	23.0	25.0	24.0	24.1	0.0044	0.0057	1.20	0.114
	24.0	25.1	24.5	25.0				
8	24.0	26.1	24.5	26.0	0.0011	0.0004	1.20	0.124
	23.9	25.2	24.0	25.0				
9	23.3	24.7	23.3	24.3	0.0045	0.0045	1.20	0.110

TABLE A.19. Deflection Computations for Cut at UCMACBEK3241-1

Point No	Intermediate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Arc Intermediate Deflection (1/1000 in.)	Arc Final Deflection (1/1000 in.)	Temp Corrected Deflection (in.)		Settlement Correction	Final Line Deflection
					Corrected Deflection (in.)	Temp Corrected Deflection (in. = 1.0)		
1	0.0	0.0	0.0	0.0	0.0208	0.0235	1.20	0.042
2	0.1	0.2	0.2	0.18	0.0245	0.0265	1.20	0.050
3	0.1	0.1	0.5	0.51	0.0230	0.0270	1.20	0.047
4	0.1	0.2	0.2	0.17	0.0263	0.0259	1.20	0.057
5	0.1	0.2	0.3	0.3	0.0268	0.0328	1.20	0.054
6	0.1	0.1	0.5	0.43	0.0268	0.0286	1.20	0.050
7	0.1	0.2	0.0	0.0	0.0248	0.0261	1.20	0.049
8	0.0	0.1	0.0	0.0	0.0232	0.0314	1.20	0.047
9	0.0	0.1	0.1	0.1	0.0263	0.0223	1.20	0.033
10	0.0	0.2	0.2	0.1	0.0254	0.0400	1.20	0.052

TABLE A.20. Deflection Computations for Cut at UCMACBEK3333-1

Point No	Intermediate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Avg Inter Deflection (1/1000 in.)	Avg Final Deflection (1/1000 in.)	Corrected Deflection (in.)	Temp Corrected Deflection [Cer = 1.5]		Second Correction	Final True Deflection
						Temp Corrected Deflection [Cer = 1.5]	Deflection [Cer = 1.5]		
1	10.1	10.1	10.1	10.1	0.0208	0.0418	1.28	0.0532	
2	10.0	10.0	10.0	10.0	0.0301	0.0501	1.28	0.014	
3	10.0	10.0	10.0	10.0	0.0411	0.0634	1.28	0.000	
4	10.3	10.3	10.3	10.3	0.0409	0.0628	1.28	0.016	
5	10.0	10.0	10.0	10.0	0.0403	0.0718	1.28	0.000	
6	10.5	20.0	15.25	15.7	0.0463	0.0729	1.28	0.001	
7	17.0	17.0	17.0	17.0	0.0467				
8	10.2	10.0	10.1	10.2	0.0418	0.0644	1.28	0.001	
9	17.0	17.0	17.0	17.0	0.0411	0.0630	0.0002	1.28	0.003
10	10.0	17.2	13.6	17.0	0.0430				
11	10.0	10.1	10.05	10.1	0.0417	0.0641	1.28	0.001	
12	14.2	15.3	14.75	15.3	0.0417				
13	14.7	15.0	14.85	15.0	0.0417				

TABLE A.21. Deflection Computations for Cut at UCMACBEK3411-1

Point No	Intermediate Deflection [1/1000 in.]	Final Deflection [1/1000 in.]	Avg Interim Deflection [1/1000 in.]	Avg Fluid Deflection [1/1000 in.]	Corrected Deflection [in.]	Temp Corrected Deflection [ $\Delta_{\text{ext}} = 1.34$ ]		Final True Deflection
						Second Correction	First Correction	
1	0.0	0.0	0.0	0.0	0.0231	0.0232	0.0230	0.0230
2	-0.4	0.0	-0.2	0.0	0.0234	0.0231	0.0230	0.0230
3	-0.2	0.1	-0.1	0.1	0.0170	0.0237	0.0230	0.0230
4	0.0	0.1	0.0	0.0	0.0162	0.0219	0.0217	0.0217
5	-0.1	0.0	-0.1	0.0	0.0163	0.0243	0.0241	0.0241
6	0.0	0.2	0.0	0.0	0.0174	0.0237	0.0230	0.0230
7	0.1	0.0	0.0	0.0	0.0168	0.0232	0.0230	0.0230
8	0.0	0.1	0.0	0.0	0.0170	0.0236	0.0231	0.0231
9	-0.1	0.0	-0.1	0.0	0.0177	0.0235	0.0230	0.0230
10	0.1	0.2	0.0	0.0	0.0177	0.0235	0.0230	0.0230

TABLE A.22. Deflection Computations for Cut at UCMACEDW3642-1

Point No	Intermediate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Ave Interim Deflection (1/1000 in.)	Ave Final Deflection (1/1000 in.)	Corrected Deflection (in.)	Seasonal Correction		Final True Deflection
						Temp Corrected Deflection (Cov = 1.0)	Temp Corrected Deflection (Cov = 1.00)	
1	6.6	7.2	7.0	7.7	0.0103	0.0203	0.00	0.020
2	12.6	13.6	13.2	25.1	20.2	0.0203	0.0223	0.00
3	16.0	17.0	16.9	30.8	34.4	0.0448	0.0401	0.00
4	16.0	17.4	17.4	30.7	34.1	0.0438	0.0402	0.00
5	16.0	16.7	16.7	32.2	35.0	0.0453	0.0406	0.00
6	16.2	17.0	16.6	31.8	34.7	0.0226	0.0176	0.00
7	17.0	18.0	17.9	32.0	34.0	0.0111	0.0052	0.00
8	18.0	17.1	17.0	32.3	34.7	0.0118	0.0057	0.00
9	18.2	17.4	17.4	32.2	35.0	0.0130	0.0113	0.00
								0.017

TABLE A.23. Deflection Computations for Cut at UCMACEDW3821-1

Point No	Intermediate Deflection (1/1000 in.)	Final Deflection (1/1000 in.)	Avg Interim Deflection (1/1000 in.)	Avg Final Deflection (1/1000 in.)	Corrected Deflection (in.)	Temp Corrected Deflection (Cen = 1.2)		Second Correction	Final True Deflection
						Temp Corrected Deflection (Cen = 1.2)	Second Correction		
1	49.0	50.0	49.2	50.0	0.1020	0.1300	0.00	0.1300	0.1300
2	42.7	43.0	42.8	43.0	0.0955	0.1330	0.00	0.1330	0.1340
3	37.0	39.2	37.7	39.0	0.0940	0.1344	0.00	0.1344	0.1344
4	35.0	37.4	36.2	37.7	0.0980	0.1374	0.00	0.1374	0.1381
5	31.1	32.1	31.3	32.0	0.0913	0.1314	0.00	0.1314	0.1314
6	32.2	34.0	33.2	34.2	0.0974	0.1377	0.0000	0.1377	0.1381
7	31.0	33.2	32.2	33.2	0.0911	0.1310	0.0000	0.1310	0.1312
8	31.2	32.0	31.1	32.0	0.0914	0.1314	0.0000	0.1314	0.1314
9	33.2	35.2	34.3	35.3	0.0982	0.1402	0.0000	0.1402	0.1402
10	30.1	30.6	30.3	30.7	0.0982	0.1401	0.0000	0.1401	0.1401
11	31.0	33.0	32.0	32.0	0.0974	0.1374	0.0000	0.1374	0.1374
12	30.7	32.0	31.3	31.3	0.0970	0.1363	0.0000	0.1363	0.1363
13	30.0	40.2	35.0	35.0	0.0910	0.1103	0.0000	0.1103	0.1110
14	37.0	41.1	39.0	41.1	0.1030	0.1410	0.0000	0.1410	0.1410